

### III. REMARKS

1. Claims 1-17 remain in the application. Claims 1, 5, 9, 10, 12, 13, and 17 have been amended.

2. Applicants respectfully submit that claims 1-6, 9, and 13-16 are patentable over the combination of Mehuys et al. (US 5,537,432 "Mehuys") and Fox et al. (US 4,868,834, "Fox") under 35 USC 103(a).

2.1 The combination of Mehuys and Fox fails to disclose or suggest a cavity, continuously tunable over a wavelength range, as recited by claims 1, 5, 9, and 13.

Mehuys provides an external cavity laser with a single wavelength and narrow linewidth. Each embodiment of Mehuys teaches away from continuous tuning. See for example, col. 2, lines 52-54, col. 4, lines 56-65, col. 5, lines 36-44, col. 8, lines 62-63, col. 9, lines 21-26, etc. Each of Mehuys' embodiments have a fixed grating and are directed to a single frequency output, thus, Mehuys is incapable of continuous tuning over a range of wavelengths.

Fox discloses a laser system that emits two or more pulses of pre-selected wavelengths within 1 millisecond of each other. Applicants submit that Fox is also incapable of continuous tuning, but only produces pulses of specific wavelengths.

The difference is that Applicants cavity is constructed to sweep across a range of wavelengths, while Mehuys has a fixed wavelength and Fox pulses between 2 discrete wavelengths.

2.2 Neither reference discloses a second reflecting unit that travels along a circle path with respect to the grating to continuously vary the optical path length of the cavity as recited by claims 1, 5, 9, and 13.

Mehuys does not have this feature. Fox discloses a rotating mirror 22 but the rotating mirror does not continuously vary the optical path length of the cavity. The mirror operates to provide different angles of axis 27 during the pulse times, resulting in different retro reflected wavelengths from the grating 20.

At least for these reasons, independent claims 1, 5, 9, and 13 and dependent claims 2-4, 6, and 14-16 are patentable over the combination of Mehuys and Fox.

3. Applicants respectfully submit that claims 7, 8, 10, and 11 are patentable over the combination of Mehuys, Fox, and Fink (US 4,862,468).

3.1 Claims 7 and 8 depend from claim 5.

Fink fails to disclose or suggest the features of claim 5 missing from the combination of Mehuys and Fox, that is, a cavity continuously tunable over a wavelength range, where at least one grating is configured to rotate along a circle path about an axis by at least 360 degrees and provides a continuous movement with respect to said first and second reflecting unit to continuously vary the optical path length of the cavity.

Fink discloses a switchable line selector for pulsed lasers that forces successive pulses to be on different and distinct spectral lines (see column 1, lines 7-11). A set of diffraction gratings are provided on the face of a rotating wheel. As the diffraction gratings each come into correct optical alignment, the laser is fired. Thus, Fink is incapable of providing a cavity continuously tunable over a wavelength range, and does not rotate at least one grating to continuously vary the optical path length of the cavity. Therefore, the combination of Mehuys, Fox, and Fink fails to render claims 7 and 8 unpatentable.

3.2 The combination of Mehuys, Fox, and Fink fails to disclose or suggest a cavity continuously tunable over a wavelength range, and fails to disclose or suggest that said second reflecting unit and said grating are both configured to rotate along a circle path about an axis by at least 360 degrees and provide a continuous movement with respect to said grating to continuously vary the optical path length of the cavity, all as recited by claim 10.

None of the cited references discloses or suggests these features for the reasons argued above. At least for these reasons, independent claim 10 and dependent claim 11 are patentable over the combination of Mehuys, Fox, and Fink.

4. Claim 12 is directed to subject matter similar to claim 1 and is patentable for the same reasons argued above in support of claim 1.

5. Claim 17 is directed to subject matter similar to claim 13 and is patentable for the same reasons argued above in support of claim 13.

For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record, and are in proper form for allowance. Accordingly, favorable reconsideration and allowance is respectfully requested. Should any unresolved issues remain, the Examiner is invited to call Applicants' attorney at the telephone number indicated below.

The Commissioner is hereby authorized to charge payment for any fees associated with this communication or credit any over payment to Deposit Account No. 50-1078.

Respectfully submitted,

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Joseph V. Gamberdell, Jr.  
Reg. No. 44,695

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Perman & Green, LLP  
425 Post Road  
Fairfield, CT 06824  
(203) 259-1800  
Customer No.: 2512